

The Welsh start-up firm and the beach creatures

Pembroke Dock-based start-up Mikota is set to revolutionise the supply of hemocyanin for the anti-cancer market by sourcing it from slipper limpets – a common pest on the shores of Southern England. Founder **Alex Mühlhölzl** explains how it works

Mikota Ltd, a Welsh start-up biotechnology and medical device company, is looking to commercialise two key products sourced from the invasive slipper limpet – a creature that’s a common sight on our shores. BioCyanin, a new and novel hemocyanin which can be used in anti-cancer treatments, immunology and anti-body creation, and Maricoll, a marine collagen for the advanced wound care and regenerative medicine markets.

The company, which is based in Pembroke Dock, was founded in 2014 by Alex Mühlhölzl and David Evans and started trading in 2017 when it raised early stage seed investment to match grant funding from PLANED (LEADER), the Sustainable Development Fund and Innovate UK.

The company recently celebrated a key step forward after winning an Innovate UK Medicines Manufacturing Round 2: challenge fund grant for hemocyanin scale-up development.

“The Innovate UK funding follows on from an earlier hemocyanin feasibility study that was funded by LEADER funding from PLANED and Sustainable Development Funding from the Pembrokeshire Coast National Park Authority,” explains Mr Mühlhölzl.

“The medicines manufacturing grant is in



It looks pretty humble, but the contents of these bottles can be used in anti-cancer treatments

collaboration with Cardiff University, with expertise provided from Dr Mark Young and Prof Thomas Wirth. The project has allowed Mikota to take on three professional training year students, part of the company’s employability program to get students ‘employment ready’ at their time of graduation.

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The slipper limpet’s emergence as a source of hemocyanin is very timely, as the present



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gold standard, KLH, is sourced from the giant keyhole limpet – a species that is under threat. This is the key message that Mikota shared during a trade mission to Korea in October 2018 and is the story the company promoted at the MEDICA trade show in Düsseldorf, in November, 2018.

As the first company to extract hemocyanin from slipper limpets, Mikota is actively forming new partnerships and collaborations to exploit this new technology.

“The Innovate UK grant award was part of a monumental last quarter of 2018 for the company with the signing of an MOU with a large global medical device manufacturer and its multi-city trade mission to Korea, which has become a key export destination for marine sourced products,” says Mühlhölzl.

Meanwhile, the company’s work with collagen has been supported by another Innovate UK grant, Analysis for Innovators (A4i), that was received earlier in the year for collagen based product development, and by the appointment of Dr Stewart White as its chairman and Dr White has extensive experience in the collagen space, having



The team at a conference on the development of non-mammalian collagen based biomaterials